

ORIGINAL ARTICLE

OCCUPATIONAL STRESS AND PERSONALITY CHARACTERISTICS: ARE THEY RELATED?

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ABSTRACT

Introduction: To determine association between occupational stress and personality characteristics among nurses at Maternal and Child Health Clinic in the state of Malacca, emphasizing on type of personality and personal perception of stress.

Methods : A cross sectional study was conducted among 152 nurses of Maternal and Child Health Clinics in Malacca using self administered questionnaires and selected via multistage sampling.

Results : This study showed that a total of 28.3% of the nurses were found to be stressed. Almost half (41.2%) of those who perceived that they were stressed were likely to be really stressed ($p = 0.004$). Therefore those who perceived themselves to be stressed should be referred for stress evaluation and further management if necessary. However self-perception of stress cannot be used as a screening tool for stress due to its lack of sensitivity (56.8%) and poor Positive Predictive Value (41.2%). Majority of the nurses were of Guardians Personality Type (98%) and 72.4% of them had extrovert trait. However there were no significant associations between stress with personality type or characteristic, most probably due to the preponderance of one personality type or characteristic. Other studied variables such as socio-demographic factors (age, gender, ethnicity, religion, marital status, educational level, body mass index, type of work place, position, duration of service and poverty level) and social factors (placement, chronic medical illness, chronic care taker, smoking status and alcohol drinker) were suggestive of an association between them and stress but were not statistically significant.

Conclusion : There is no association between occupational stress and personal characteristics among nurses in Malacca.

Keywords : Occupational stress, personality type

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INTRODUCTION

Stress is part and parcel of the working environment and helps to keep the workers motivated. But excessive stress can undermine performance and is costly to the employers. It can also lead to increase in sickness absenteeism. Occupational stress is defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker^{1,2}. However, personality characteristics should have some influence on stress appraisals and coping efforts². Since different people react differently to stress, the effects of stress can be different for each of us.

The available scientific evidence suggests that those who work in the healthcare setting, especially those with direct contact with and responsibility for patients, may be particularly at risk from work-related stress². Work-related stress has been associated with numerous negative psychological and physical responses². The effect of such stress in those who work in healthcare are no less than those who work in other types of jobs e.g. managers and teachers³. However, other effects of stress such as reduced productivity and sickness absenteeism are a real challenge to the quality of healthcare provision and may be a factor that determines the overall effectiveness of the healthcare systems.

Work-related stress in healthcare systems is a major challenge to the health of those who work in those systems, to the healthiness of their organizations and to the effectiveness of the health services that they deliver¹.

RESEARCH JUSTIFICATION

Perception of stress is highly subjective, and due to the complexity of nursing practice, it may result in variation in identifying the sources of stress by the nurses⁴. Most studies agree that job stress resulted from the interaction of the worker and the conditions at work. However, this study aims to demonstrate the association between personality type and job stress since the relationship between personality factor and stress was not emphasized upon in most studies. The differences of individual characteristics such as personality and coping style enable us to predict whether certain job conditions will result in stress or not. As stated earlier, what is

considered as stressful for one may not be stressful for another.

Identifying those with suitable personality characteristic and coping skills may lead to better prevention strategies that focus on the worker and identify ways to help them cope with demanding job conditions. Otherwise such chronic stress may lead to poor health or even injury.

OBJECTIVE

The objective of the study is to determine the association between occupational stress and personality characteristics among nurses at Maternal and Child Health Clinic of Malacca state. The study will also determine the prevalence of occupational stress and its association with socio-demographic factors and perception of stress.

METHODOLOGY

This was a cross sectional study involving a sample of 158 nurses working in Maternal and Child Health government facilities in Malacca state from 15th September to 15th November 2005. They were taken via multistage sampling method with a required sample size of 130 respondents. All the nurses were selected randomly from 16 Maternal and Child Health Clinics in two randomly chosen districts of Malacca. Pregnant women and known cases of psychiatric problems already diagnosed by a certified Medical Officer or Psychiatrist were excluded from the study. Self-administered questionnaires were used to gather the information. There were 3 sections in the questionnaire;

- section A-sociodemographic,
- section B- Life Stress Questionnaire⁵ and
- section C- Personality Test: Keirsey Temperament Sorter⁶.

The Keirsey Temperament Sorter was used to differentiate four distinct temperament categories;

- The Guardians (sensory judgment),
- The Artisans (sensory perception),
- The Rationals (intuitive thinking) and
- The Idealist (intuitive feeling).

Those who scored 150 and more in Life Stress Questionnaire were defined as stressed⁵. Data were analyzed by using SPSS Version 11.5. Variables were analyzed appropriately according to the objective, type of data and its distribution.

RESULTS

A total of 158 questionnaires were distributed and 6 were not returned, giving a response rate of 96.2%. All respondents were female. Mean age was 36.4 ± 9.8 years old. The youngest respondent was 21.8 years old and the oldest respondent was 55.1 years old. The mean of the Body Mass Index (BMI) was 25.5 ± 4.8 kg/m². The lowest BMI was 16.9kg/m²; the highest BMI was 49.5 kg/m². Table 1 showed that majority of respondents were Malays (93.4%), were Islam (94.7%), married (88.8%) and certified nurse (78.3%). The respondents was comprised of Community Nurse (62.5%) and stationed at Health Clinic (80.3%). Most of them (65.1%) were in service of less than 10 years and like their placement (95.4%). 94.7% of them were non care taker and had no chronic medical illnesses (87.5%). Majority of them were not taking alcohol (98.7%) and non smoker (99.3%). A total of 28.3% of the nurses were found to be stressed in comparison of 33.5% of them had self perception of stress.

However cross tabulation of socio-demographic factors (such as age, ethnicity, religion, marital status, educational level, body mass index, type of workplace, position, duration of service, placement, chronic care taker, alcohol drinker, smoking status and chronic medical illness) by presence of stress were not statistically significant. Further information can be found on the following tables.

Table 1 Socio-demographic factors and stress among respondents

Demographic Factors		Frequency	Percents (%)
Age	16 - 25.9	19	12.5
	26 - 35.9	70	46.1
	36 - 45.9	25	16.4
	46 - 55.9	38	25.0
Ethnicity	Malay	142	93.4
	Chinese	6	3.9
	Indian	1	0.7
Religion	Islam	144	94.7
	Others	8	5.3
Marital Status	Single	13	8.6
	Married	135	88.8
	Previously married	4	2.6
Educational Level	Certificate	119	78.3
	Diploma	32	21
	Degree	1	0.7
Body Mass Index	Underweight	8	5.3
	Normal	44	28.9
	Pre obese	55	36.2
	Obese	45	29.6
Type of Work Place	Health Clinic	122	80.3
	Rural Health Clinic	30	19.7
Position	Community Nurse	95	62.5
	Public Health Nurse	57	37.5
Duration of Service	Less than 10 years	99	65.1
	10 years and above	53	34.9
Placement	Like	144	95.4
	Dislike	7	4.6
Chronic Care Taker	Yes	8	5.3
	No	144	94.7
Smoking Status	Smoker	1	0.7
	Non smoker	151	99.3
Alcohol Drinker	Yes	2	1.3
	No	150	98.7
Self perception of stress	Stress	51	33.5
	No Stress	86	56.6
	Do not know	15	9.9
Stress	Stress Present	43	28.3
	Stress Absent	109	71.7

Table 2 Cross tabulation of Self Perception of Stress by Presence of Stress

		Stress		Total	Test	p
		Present	Absent			
Self Perception of Stress	Yes	21 41.2%	30 58.8%	51	$\chi^2 = 8.27$	0.004
	No	16 18.6%	70 81.4%	86		
Total		37	100	137		

Sensitivity = 56%, specificity = 70%, PPV = 41.2%, NPV = 81.4%

Table 3 Type of Personality among Respondents

Type of Personality		Frequency	Percent (%)
Keirsey Temperaments	Guardians	ESTJ - The Supervisors	69 45.4
		ISTJ - The Inspectors	28 18.4
		ESFJ - The Providers	38 25.0
		ISFJ - The Protectors	14 9.2
	Artisans	ESTP - The Promoters	2 1.3
		ESFP- The Performers	1 0.7
		ISTP & ISFP - The Crafters & The Composers	0 0.0
	Rationals	0	0.0
	Idealist	0	0.0
	Traits	Extrovert	110
Introvert		42	27.6

Table 4 Cross Tabulation of Personality Type by Presence of Stress

		Stress		Total	Test	p
		Present	Absent			
Keirsey Temperaments	Guardians	42 28.2%	107 71.8%	149	Yates Correction = 0.20	0.652
	Artisans	1 33.4%	2 66.6%	3		
Traits	Extrovert	32 29.1%	78 70.9%	110	$\chi^2 = 0.13$	0.732
	Introvert	11 26.2%	31 73.8%	42		

DISCUSSION

Prevalence of stress among nurses (28.3%) in Table 1 was lower in comparison to the other studies^{7,8,9} which were 42.5%, 49.3% and 48.8% respectively but the prevalence of stress was more or less the same with another study on stress among paramedics in Pahang¹⁰ which had a prevalence of 29.2%. Only the association between self-perception of stress and presence of stress was statistically significant ($p=0.004$). Among those felt stressed, only 41.2% of them were truly stressed. Those who didn't felt stressed, 81.4% of them were truly not stressed. It was noted that prevalence of stress absence was higher in all categories of self perception. May be the instruments used were not sensitive enough to detect the stress among the respondents. Moreover, the variation between individual perception is most likely to arise from differences in personal factors, as personal 'hardiness' influences ability to cope, as do the levels of companionship and social interaction at work and also other contributing factors from outside of the workplace⁴.

We were unable to determine any common source of stress from the study as it did not look for other sources of stress such as workload/time pressure, inter- and intra-professional conflicts, discriminations, lack of reward/amount of pay, dealing with patients/their family and emotional pressure. One possible explanation for the source of stress is that during the time of the study, the Alor Gajah and Melaka Tengah Health District Office were undergoing MS ISO certification; compliance audit and surveillance audit respectively. Therefore, most of the staffs were under pressure to comply with the requirements and were unduly stressed. Even if an attempt was made to identify the common source of stress, chances are we cannot since there would be a lack of commonality between nurses' perception for the source of the stress⁴.

There had been many studies done on occupational stress in health care workers especially nurses focusing on relationship between occupational stress and variety of ailments / work characteristics / demographic and personal characteristics; but very little were done on personality type or temperaments in relation with occupational stress. Table 3 showed only two temperaments were identified among respondents. Majority of respondents were of Guardians Temperament (98%). The Guardians

have security seeking personality. Common values amongst Guardians are concrete in communicating and cooperative in implementing goal¹¹. They also can become highly skilled in logistics¹¹. The Supervisors (ESTJ) subtype consist 45.4% of them. For this subtype of personality, they are practical, traditional, loyal, hardworking and exceptionally capable in organizing and running activities¹¹. On the other hand, the Artisans Temperament (0.02%) have sensation seeking personality, the common values are concrete in communicating and utilitarian in implementing goals¹¹. They also can become highly skilled in tactical variation¹¹. However, no significant association could be found between personality type and presence of stress due to the preponderance of one type of personality temperament in this population. It is not surprising since nursing, would attract certain types of personality resulting in lack of variability of temperaments. In comparison to a recent study, the schizoid temperament display significant robustness in facing most job stressors and the melancholic type showed a similar pattern to a lesser degree¹². That study also showed that temperaments influences job stress significantly, it impact on stress with greater magnitude than age, gender, workload related stressors and job rank¹².

SUGGESTIONS

This study confirmed that there is a significant association between perceived stress among nurses and presence of stress. Therefore those who perceived that they are stressed should be further evaluated for stress. If proven to be so, then they can be sent for stress management interventions to improve coping strategies, reduce personal difficulties and prevent family disharmony. However self-perception of stress cannot be used as a screening tool for stress due to its lack of sensitivity (56.8%) and poor Positive Predictive Value (41.2%). Instead it could be used as a symptom for further evaluation prior to intervention. Available data, although sparse, suggest that the effectiveness of stress interventions at the organizational level is beneficial to both individual and organizational health¹⁴. Work stress is current and future health and safety issue, and, as such, should be dealt with in the same logical and systematic way as other health and safety issue, as most people spend 25% of their adult lives working¹. While stress at work will remain a major challenge to

occupational health, our ability to understand and manage the stress is improving.

STUDY LIMITATIONS

Cross tabulation of socio-demographic factors and factors known to induce stress by presence of stress were statistically not significant even though there were differences in prevalence of stress. It is probably due to small sample size. The study design is cross sectional thus the possibility of reversed causality cannot be ruled out. Weight, height, duration of service, income, personality questionnaires and stress scores were self reported – which can cause bias, due to underestimation of stress and of the studied variables.

CONCLUSION

Nursing, like all professions, is based on the idea of service to humanity. The practice of nursing involves altruistic behavior, guided by medical research and governed by a code of ethics. They are also exposed to stress from various multi factorial stressors. A total of 28.3% of the nurses were found to be stressed. Socio-demographic factors and personality types were not associated with stress at workplace among the nurses. Some of the results were suggestive of an association but they were not statistically significant. Therefore a bigger study with a larger sample size and more comprehensive approach should be considered. The only significant association is with perception of stress among nurses. It showed that 41.2% of those who perceived that they are stressed were truly stressed. Majority of the nurses were Guardian Personality Type (98%) and 72.4% of the sample were extrovert traits but there were no significant association between these personality type and traits with stress. In conclusion, there is no association between occupational stress and personal characteristics among nurses in Malacca.

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